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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/521,754

01/19/2005

Shozo Kadota

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EXAMINER

NGUYEN, DONGHAI D

ART UNIT

PAPER NUMBER

3729

MAIL DATE

DELIVERY MODE

09/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/521,754	Applicant(s) KADOTA ET AL.	
	Examiner Donghai D. Nguyen	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) 1-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/19/05;10/26/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species B, claims 19-27, in the reply filed on July 5, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Thus, claims 1-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim.

Drawings

2. Figures 38 and 43 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --COMPONENT INSERTION METHOD--.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 20-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation "the pusher" (claim 20, line 6) lacks antecedent basis.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 19 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,628,595 to Fujita et al in view of US Patent 4,690,523 to Goumas et al.

Regarding claim 19, Fujita et al disclose a component insertion method for inserting a plurality of components (4, see Figs. 3a-c) in each of which a lead wire (5) is formed at each device portion, the components including a first component (see Fig.13) and a second component (see Fig. 12) lower in rigidity of the device portion than the first component, into a lead-wire (5) insertion hole (21) formed at a component insertion position in a board (20) by grasping the

Art Unit: 3729

components one by one at a component grasping position and inserting each lead wire into the insertion hole so that the first component and the second component are inserted into the board and compositely mounted thereon, the component insertion method comprising: grasping the component releasably at the component grasping position (see Fig. 15); along with the grasping of the component, performing positional alignment in a direction extending along a surface of the board (20) between the lead wire (5) of the component and the insertion hole (21) of the board (see Figs. 15-16); and thereafter, inserting the lead wire of the grasped component into the insertion hole of the board (see Fig. 21). Fujita et al do not disclose a grasping pressure for the second component becomes lower than a grasping pressure for the first component. Goumas et al teach the grasping of variety of components (16) which having lead wire (see Fig. 2) at different grasping pressure for gripping the component without deform or destroy the components (see Col 8, lines 3-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Fujita et al by utilized the gripper having controllable grasping pressure as taught by Goumas et al for gripping the component without deform or destroy the components.

Regarding claim 25, Fujita et al disclose the components (4) are radial components, the method further comprising: grasping the lead wire (5) of the component and performing positional alignment (by members 41) in a direction along a surface of the board between the lead wire of the component and the insertion hole of the board (see Fig.15); along with that, grasping the device portion of the component whose lead wire has been grasped, thereby correcting a bend of the lead wire on a fulcrum given by the grasping position of the lead wire so that the device portion is placed at the component insertion position in the direction along the

surface of the board, whereby correction of insertion posture of the component is performed; and inserting the lead wire of the component, which has been corrected in its insertion posture, into the insertion hole of the board (see Fig. 16-21).

Regarding claim 26, Fujita et al disclose after the correction of the insertion posture of the component, holding an end portion of the lead wire of the component by a guide pin (45) through the insertion hole (21) of the board (20), and further releasing the grasping of the device portion and the grasping of the lead wire (see Fig. 22); and subsequently, moving the guide pin so that the end portion of the lead wire is guided to the insertion hole of the board, thereby inserting the lead wire of the component into the insertion hole (see Fig. 18).

Regarding claim 27, Fujita et al disclose each of the components that are radial components has a plurality of the lead wires formed so as to be each arrayed in one line (see Fig. 12), and the correction of the insertion posture of the component is performed by moving the device portion in a direction extending along a surface of the board and generally perpendicular to the array direction of the lead wires (See Figs. 15-22).

8. Claims 20, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita/Goumas et al as applied above, and further in view of US Patent 4,944,086 to Nishihara et al.

Regarding claim 20, Fujita after the grasping of the component (4), making an end portion of the lead wire (5) of the component with an engagement portion of the guide pin (45) through the insertion hole (21) of the board (20), and in pressing the device portion of the component toward the insertion position of the board by a pusher (25) to hold the engagement

between the guide pin (45) and the lead wire; and releasing the grasping of the component (4) and guiding the lead wire (5) into the insertion hole by the guide pin so as to be inserted therein, while holding the engagement (see Figs. 15-21). However, Fujita/Goumas et al do not disclose a pressure for the pressing of the second component becomes lower than a pressure for the pressing of the first component. Nishihara et al teach the pusher (17) that presses the component (12) predetermined pressure for each component and has the pressing pressure being controlled for preventing damaging or bending to the lead wire and/or the components (see Col. 6, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Fujita/Goumas et al by utilized the pusher having controllable pressing pressure as taught by Nishihara et al for inserting the components into the board without damaging or bending the lead wire and/or the components.

The limitations of claims 23 and 24 also met as set forth above.

9. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita/Goumas/Nishihara et al as applied to claim 20 above, and further in view of US Patent 4,833,776 to Wakamiya et al.

Fujita/Goumas/Nishihara et al as applied above do not disclose all the limitation of claims 21 and 22 except for bending the lead wire of the component. Wakamiya et al teach the bending the lead wire (4) of the component (4) after it inserted into the board (5) while the component being grasped and pushed by gripper and the pusher for securing the component to the board (see Figs. 4K-4P). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of

Art Unit: 3729

Fujita/Goumas/Nishihara et al as by utilized the bending the lead wire of the component as taught by Wakamiya et al for securing the component to the board. Note the limitation of claim 22 also met as set forth above because Nishihara et al teach the pressing pressure of pusher being controlled to protect the lead wire and the component from being damaged.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art references cited for their teachings of inserting the lead wire of component to the board.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (571)-272-4566. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (571)-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3729

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN

September 17, 2007

A handwritten signature in black ink, appearing to read 'Donghai D. Nguyen', with a stylized, flowing script.

Patent Examiner: Donghai D. Nguyen